TABLE 1: Table 1 represents the IRD NSI Requirements Reference Table that contains Level 3 NSI requirements and their attributes as the appear in the L3_F&PRS Class, Currently. These NSI requirements shall be <u>DELETED from the L3_F&PRS Class</u> and then <u>ADDED to the IRD Class</u> of RTM MAIN database. The IRD NSI requirements will be linked to the corresponding L3_F&PRS Level_3 requirements contained in Table 2 and the corresponding Level_3 RBR requirements contained in Table 3.

IRD Rqt_Id	Rqt Key	Rqt Text	Rqt Type	Clarific	Seg Alloc	Rqt source	Rqt Status	Rqt Title
NSI-0010	1551	NSI, responsible for EOSDIS "Mission Success" network services, shall provide network connectivity to the following ECS facilities: a. ECS at the GSFC DAAC, Goddard Space Flight Center (GSFC), Greenbelt, Maryland b. ECS Operations Center (EOC), Goddard Space Flight Center (GSFC), Greenbelt, Maryland c. System Monitoring and Coordination facility (SMC), Goddard Space Flight Center (GSFC), Greenbelt, Maryland d. ECS at the EDC DAAC, Earth Resources Observation System (EROS) Data Center (EDC), Sioux Falls, South Dakota e. ECS at the JPL DAAC, Jet Propulsion Laboratory (JPL), Pasadena, California f. ECS at the LaRC DAAC, Langley Research Center (LaRC), Hampton, Virginia g. ECS at the NSIDC DAAC, University of Colorado, National Snow and Ice Data Center (NSIDC), Boulder, Colorado h. ECS at the ASF DAAC, University of Alaska, Alaska Synthetic Aperture Radar (SAR) Facility (ASF), Fairbanks, Alaska	procedural		CSMS	original	approved	NSI support to provides networks connectivity.
NSI-0020	1552	NSI shall provide support for TCP/IP communication protocols and services DCSESN the MSFC DAAC, Marshall Space Flight Center	procedural		CSMS	original	approved	NSI support for TCP/IP communication protocol and services.
NSI-0030	1553	NSI shall MSFC, Huntsville Alabama and ECS shall have the capability of receiving notification of faults in NSI's network that may affect the quality of NSI services between ECS and its users	interface		CSMS	original	approved	NSI capability to send - ECS capability to receive fault notification.
NSI-0040	1554	NSI shall make available to ECS information regarding fault status and estimated time to repair or resolve NSI faults that may affect the quality of NSI services between ECS and its users	interface		CSMS	original	approved	NSI make available fault status and estimated time for repairs to ECS.
NSI-0050	1555	NSI shall provide ECS with periodic summary information about faults that may have affected the quality of NSI services between ECS and its users	interface		CSMS	original	approved	NSI provides periodic summary information about faults to ECS.
NSI-0060	1556	NSI shall provide ECS SMC with load analysis reports, reflecting or summarizing NSI performance measurements over various time intervals	interface		CSMS	original	approved	NSI provides load analysis to ECS SMC.
NSI-0070	1557	NSI shall have the capability of sending and ECS shall have the capability of receiving notification of security breaches at NSI sites or within the NSI network that could potentially affect ECS sites	interface		CSMS	original	approved	NSI capability to send - ECS capability to receive security breach notification.
NSI-0080	1558	ECS shall have the capability of sending and NSI shall have the capability of receiving notification of security breaches at ECS facilities that could affect NSI and other EOSDIS sites	interface		CSMS	original	approved	ECS capability to send - NSI capability to receive security breach notification.

TABLE 2: Table 2 is a reference table that shows the L3_F&PRS Level_3 requirements and their link relationship to the NSI IRD requirements of the IRD Class.

F&PRS Rqt_Id	Rqt Src_Id	Rqt Key	Text	Rqt Title	IRD L3 Rqt_Id	IRD Rqt Text	Rqt Type	Seg Alloc
OSD0500	EOSD0500	7	_ECS shall perform the following major functions: a._EOS Mission Planning and Scheduling b._EOS Mission Operations c._Command and Control d._Communications and Networking e._Data Input f._Data Processing g._Data Storage h._Data Distribution i._Information Management j._End-to-End Fault Management k._System Management	ECS perfom major functions	NSI-0030	NSI shall have the capability of sending and ECS shall have the capability of receiving notification of faults in NSI's network that may affect the quality of NSI services between ECS and its users.	interface	CSM
OSD0500			_		NSI-0040	NSI shall make available to ECS information regarding fault status and estimated time to repair or resolve NSI faults that may affect the quality of NSI services between ECS and its users.	interface	CSM
OSD1000	EOSD1000	23	_ECS elements shall contribute a loop delay of not greater than 2.5 seconds of the total system delay of five (5) seconds for emergency real-time commands, not including the time needed for command execution. The loop delay is measured from the originator to the spacecraft/instrument and back and only applies when a Tracking and Data Relay Satellite System (TDRSS) link is available for contact to the spacecraft.	Element Delay Contribution	NSI-0050	NSI shall provide ECS with periodic summary information about faults that may have affected the quality of NSI services between ECS and its users.	interface	CSM
OSD2100	EOSD2100	57	_The ECS technical security policy planning shall be comprehensive and shall cover at least the following areas: a._Applicability of the C2 Level of Trustedness as defined by the NSA b._Applicability of the C2 Object Reuse capability c._Discretionary control and monitoring of user access d._ECS communications, network access, control, and monitoring e._Computer system "virus" monitoring, detection, and remedy f._Data protection controls g._Account/privilege management and user session tailoring h._Restart/recovery i._Security audit trail generation j._Security analysis and reporting k._Risk analysis	Security Policy Planning	NSI-0070	NSI shall have the capability of sending and ECS shall have the capability of receiving notification of security breaches at NSI sites or within the NSI network that could potentially affect ECS sites.	interface	CSM
OSD2100			_		NSI-0080	ECS shall have the capability of sending and NSI shall have the capability of receiving notification of security breaches at ECS facilities that could affect NSI and other EOSDIS sites.	interface	CSM
OSD2510	EOSD2510	63	_ECS elements shall maintain an audit trail of: a._All accesses to the element security controlled data b._Users/processes/elements requesting access to element security controlled data c._Data access/manipulation operations performed on security controlled data d._Date and time of access to security controlled data e._Unsuccessful access attempt to the element security controlled data by unauthorized users/elements/processes f._Detected computer system viruses and worms g._Actions taken to contain or destroy a virus	Audit Trail Maintenance	NSI-0070	NSI shall have the capability of sending and ECS shall have the capability of receiving notification of security breaches at NSI sites or within the NSI network that could potentially affect ECS sites.	interface	CSM

OSD2510					NSI-0080	ECS shall have the capability of sending and NSI shall have the capability of receiving notification of security breaches at ECS facilities that could affect NSI and other EOSDIS sites.	interface	CSM
OSD2710	EOSD2710	69	_ECS elements shall report all detected computer viruses and actions taken to the SMC.	Virus detection and Actions	NSI-0070	NSI shall have the capability of sending and ECS shall have the capability of receiving notification of security breaches at NSI sites or within the NSI network that could potentially affect ECS sites.	interface	CSM
OSD2710					NSI-0080	ECS shall have the capability of sending and NSI shall have the capability of receiving notification of security breaches at ECS facilities that could affect NSI and other EOSDIS sites.	interface	CSM
SMC-3380	SMC-3380	1083	_The SMC shall evaluate overall system performance.	Evaluate system performance	NSI-0060	NSI shall provide ECS SMC with load analysis reports, reflecting or summarizing NSI performance measurements over various time intervals.	interface	CSM
SMC-4310	SMC-4310	1090	_The SMC shall perform fault analysis including, at a minimum: a._Isolation b._Location c._Identification d._Characterization	Fault analysis	NSI-0050	NSI shall provide ECS with periodic summary information about faults that may have affected the quality of NSI services between ECS and its users.	interface	CSM
ESN-0003	ESN-0003	1183	_The ESN shall enable researchers on existing networks (TCP/IP and GOSIP) to gain access to data and ECS services in a transparent manner to the underlying differences between the networks.	Transparent access to ECS	NSI-0020	NSI shall provide support for TCP/IP communication protocols and services to ESN.	procedural	CSM
ESN-1430	ESN-1430	1239	_The ESN shall provide the following security event functions: a._Event detection b._Event reporting c._Event logging	Security mechanisms	NSI-0070	NSI shall have the capability of sending and ECS shall have the capability of receiving notification of security breaches at NSI sites or within the NSI network that could potentially affect ECS sites.	interface	CSM
ESN-1430			_		NSI-0080	ECS shall have the capability of sending and NSI shall have the capability of receiving notification of security breaches at ECS facilities that could affect NSI and other EOSDIS sites.	interface	CSM
ESN-1180	ESN-1180	1242	_The ESN shall interoperate with NSI to provide user access to ECS.	Interoperate with NSI	NSI-0020	NSI shall provide support for TCP/IP communication protocols and services to ESN.	procedural	CSM
ESN-1340	ESN-1340	1245	_The ESN shall provide support for TCP/IP communications protocols and services to external interfaces as required by the IRDs.	TCP/IP support	NSI-0020	NSI shall provide support for TCP/IP communication protocols and services to ESN.	procedural	CSM
SMC-5340	SMC-5340	1257	_The SMC shall perform security risk analyses and compromise detection.	Security analysis and detection	NSI-0070	NSI shall have the capability of sending and ECS shall have the capability of receiving notification of security breaches at NSI sites or within the NSI network that could potentially affect ECS sites.	interface	CSM
SMC-5340					NSI-0080	ECS shall have the capability of sending and NSI shall have the capability of receiving notification of security breaches at ECS facilities that could affect NSI and other EOSDIS sites.	interface	CSM

N-0006	ESN-0006	1463	_ESN shall interface with NSI to reach all external non-ECS network-attached facilities and science users.	NSI interface	NSI-0010	NSI, responsible for EOSDIS "Mission Success" network services, shall provide network connectivity to the following ECS facilities: a. ECS at the GSFC DAAC, Goddard Space Flight Center (GSFC), Greenbelt, Maryland b. ECS Operations Center (EOC), Goddard Space Flight Center (GSFC), Greenbelt, Maryland c. System Monitoring and Coordination facility (SMC), Goddard Space Flight Center (GSFC), Greenbelt, Maryland d. ECS at the EDC DAAC, Earth Resources Observation System (EROS) Data Center (EDC), Sioux Falls, South Dakota e. ECS at the JPL DAAC, Jet Propulsion Laboratory (JPL), Pasadena, California f. ECS at the LaRC DAAC, Langley Research Center (LaRC), Hampton, Virginia g. ECS at the NSIDC DAAC, University of Colorado, National Snow and Ice Data Center (NSIDC), Boulder, Colorado h. ECS at the ASF DAAC, University of Alaska, Alaska Synthetic Aperture Radar (SAR) Facility (ASF), Fairbanks, Alaska i. ECS at the MSFC DAAC, Marshall Space Flight Center (MSFC), Huntsville, Alabama	procedural	CSM
N-0780	ESN-0780	1469	_The network elements including the Internet interfaces, shall have the capability to report, periodically and on an interactive basis , network statistics to the ESN network management function, including the following information: a._Network round trip delay b._Network reset and restart indications c._Outages and CRC errors d._Performance statistics	Element statistics reporting	NSI-0030	NSI shall have the capability of sending , and ECS shall have the capability of receiving notification of faults in NSI's network that may affect the quality of NSI services between ECS and its users.	interface	CSM
N-0780			_		NSI-0040	NSI shall make available to ECS information regarding fault status and estimated time to repair or resolve NSI faults that may affect the quality of NSI services between ECS and its users.	interface	CSM
N-0780					NSI-0050	NSI shall provide ECS with periodic summary information about faults that may have affected the quality of NSI services between ECS and its users.	interface	CSM

N-1380	ESN-1380	1472	_The ESN shall provide countermeasures for the following security threats related to data communications: a._modification of data (i.e., manipulation) while in transit over the network b._disclosure of authentication information c._degradation in network or processing resource performance through denial of service attack d._Impersonation of authentication credentials or authorization	Threats ameliarization	NSI-0070	NSI shall have the capability of sending and ECS shall have the capability of receiving notification of security breaches at NSI sites or within the NSI network that could potentially affect ECS sites.	interface	CSM
N-1380			privileges. _		NSI-0080	ECS shall have the capability of sending and NSI shall have the capability of receiving notification of security breaches at ECS facilities that could affect NSI and other EOSDIS sites.	interface	CSM
N-1070	ESN-1070	1476	_The ESN shall provide the capability to perform the following functions, at a minimum: a._generate/collect network statistics b._control collection/generation of network statistics c._store system statistics and statistical histories d._display the system statistics e._track end-to-end transaction performance_	Statistics services	NSI-0060	NSI shall provide ECS SMC with load analysis reports, reflecting or summarizing NSI performance measurements over various time intervals.	interface	CSM

TABLE 3: Table 3 is a reference table that shows the relationship between the Level_3 IRD requirements from the IRD Class and the corresponding RBR requirements from the Req_By_Rel Class. The RBR requirements currently reside in the Req_By_Rel Class of RTM MAIN and shall be linked to the IRD NSI requirements of the IRD Class via this CCR.

RD Rqt_Id	RBR Rqt_Id	Rqt Key	Rel	Rqt Text	Rqt Type	Clarifi
SI-0010	NSI-0010#A	6229	A	NSI, responsible for EOSDIS "Mission Success" network services, shall provide network connectivity to the following ECS facilities: a. ECS at the GSFC DAAC, Goddard Space Flight Center (GSFC), Greenbelt, Maryland c. System Monitoring and Coordination facility (SMC), Goddard Space Flight Center (GSFC), Greenbelt, Maryland f. ECS at the LaRC DAAC, Langley Research Center (LaRC), Hampton, Virginia	procedural	
SI-0020	NSI-0020#A	6230	A	NSI shall provide support for TCP/IP communication protocols and services to ESN.	procedural	
SI-0030	NSI-0030#A	6231	A	NSI shall have the capability of sending and ECS shall have the capability of receiving notification of faults in NSI's network that may affect the quality of NSI services between ECS and its users.	interface	
SI-0040	NSI-0040#A	6232	A	NSI shall make available to ECS information regarding fault status and estimated time to repair or resolve NSI faults that may affect the quality of NSI services between ECS and its users.	interface	
SI-0050	NSI-0050#A	6233	A	NSI shall provide ECS with periodic summary information about faults that may have affected the quality of NSI services between ECS and its users.	interface	
SI-0060	NSI-0060#A	6234	A	NSI shall provide ECS SMC with load analysis reports, reflecting or summarizing NSI performance measurements over various time	interface	
SI-0060	NSI-0060#A	6234	A	NSI shall provide ECS SMC with load analysis reports, reflecting or summarizing NSI performance measurements over various time	interface	
SI-0070	NSI-0070#A	6235	A	NSI shall have the capability of sending and ECS shall have the capability of receiving notification of security breaches at NSI sites or within the NSI network that could potentially affect ECS sites.	interface	
SI-0080	NSI-0080#A	6236	A	ECS shall have the capability of sending and NSI shall have the capability of receiving notification of security breaches at ECS facilities that could affect NSI and other EOSDIS sites.	interface	
SI-0010	NSI-0010#B	6237	B	NSI, responsible for EOSDIS "Mission Success" network services, shall provide network connectivity to the following ECS facilities: a. ECS at the GSFC DAAC, Goddard Space Flight Center (GSFC), Greenbelt, Maryland b. ECS Operations Center (EOC), Goddard Space Flight Center (GSFC), Greenbelt, Maryland c. System Monitoring and Coordination facility (SMC), Goddard Space Flight Center (GSFC), Greenbelt, Maryland d. ECS at the EDC DAAC, Earth Resources Observation System (EROS) Data Center (EDC), Sioux Falls, South Dakota e. ECS at the JPL DAAC, Jet Propulsion Laboratory (JPL), Pasadena, California f. ECS at the LaRC DAAC, Langley Research Center (LaRC), Hampton, Virginia g. ECS at the NSIDC DAAC, University of Colorado, National Snow and Ice Data Center (NSIDC), Boulder, Colorado	procedural	
SI-0020	NSI-0020#B	6238	B	ECS at the ASF DAAC, University of Alaska, Alaska Synthetic Aperture Radar (SAR) Facility (ASF), Fairbanks, Alaska. NSI shall provide support for TCP/IP communication protocols and services to ESN.	procedural	
SI-0030	NSI-0030#B	6239	B	NSI shall have the capability of sending and ECS shall have the capability of receiving notification of faults in NSI's network that may affect the quality of NSI services between ECS and its users.	interface	
SI-0030	NSI-0030#B	6239	B	NSI shall have the capability of sending and ECS shall have the capability of receiving notification of faults in NSI's network that may affect the quality of NSI services between ECS and its users.	interface	
SI-0040	NSI-0040#B	6240	B	NSI shall make available to ECS information regarding fault status and estimated time to repair or resolve NSI faults that may affect the quality of NSI services between ECS and its users.	interface	
SI-0040	NSI-0040#B	6240	B	NSI shall make available to ECS information regarding fault status and estimated time to repair or resolve NSI faults that may affect the quality of NSI services between ECS and its users.	interface	
SI-0050	NSI-0050#B	6241	B	NSI shall provide ECS with periodic summary information about faults that may have affected the quality of NSI services between ECS and its users.	interface	
SI-0050	NSI-0050#B	6241	B	NSI shall provide ECS with periodic summary information about faults that may have affected the quality of NSI services between ECS and its users.	interface	
SI-0060	NSI-0060#B	6242	B	NSI shall provide ECS SMC with load analysis reports, reflecting or summarizing NSI performance measurements over various time	interface	
SI-0060	NSI-0060#B	6242	B	NSI shall provide ECS SMC with load analysis reports, reflecting or summarizing NSI performance measurements over various time	interface	
SI-0060	NSI-0060#B	6242	B	NSI shall provide ECS SMC with load analysis reports, reflecting or summarizing NSI performance measurements over various time	interface	
SI-0070	NSI-0070#B	6243	B	NSI shall have the capability of sending and ECS shall have the capability of receiving notification of security breaches at NSI sites or within the NSI network that could potentially affect ECS sites.	interface	
SI-0070	NSI-0070#B	7243	B	NSI shall have the capability of sending and ECS shall have the capability of receiving notification of security breaches at NSI sites or within the NSI network that could potentially affect ECS sites.	interface	
SI-0080	NSI-0080#B	6244	B	ECS shall have the capability of sending and NSI shall have the capability of receiving notification of security breaches at ECS facilities that could affect NSI and other EOSDIS sites.	interface	
SI-0080	NSI-0080#B	6244	B	ECS shall have the capability of sending and NSI shall have the capability of receiving notification of security breaches at ECS facilities that could affect NSI and other EOSDIS sites.	interface	

TABLE 4:   Table 4 is a reference table that shows the IRD RBR requirements currently in the RBR Class of RTM MAIN and the associated Level_4 requirements that are currently linked to the RBRs.

RBR Rqt_Td	Rqt Key	Rel	Rqt Text	Rqt Type	Clarific	Seg Alloc	L4_Id	RQT Key	REL	Text	Rqt Type	Src Int	Dest Int	Clar
SI-0010#A	6229	A	NSI, responsible for EOSDIS "Mission Success" network services, shall provide network connectivity to the following ECS facilities: a. ECS at the GSFC DAAC, Goddard Space Flight Center (GSFC), Greenbelt, Maryland c. System Monitoring and Coordination facility (SMC), Goddard Space Flight Center (GSFC), Greenbelt, Maryland f. ECS at the LaRC DAAC, Langley Research Center (LaRC), Hampton, Virginia	procedural		CSMS							
SI-0020#A	6230	A	NSI shall provide support for TCP/IP communication protocols and services to	procedural		CSMS							
SI-0030#A	6231	A	NSI shall have the capability of sending and ECS shall have the capability of receiving notification of faults in NSI's network that may affect the quality of NSI services between ECS and its users.	interface		CSMS	C-MSS-60160	215	A	The MSS EMC Fault Management Application Service shall have the capability to receive notifications of detected faults and degradation of performance from:a._Site fault management applicationsb._Other external systems as defined in Section 5.1.	functional		
SI-0040#A	6232	A	NSI shall make available to ECS information regarding fault status and estimated time to repair or resolve NSI faults that may affect the quality of NSI services between ECS and its users.	interface		CSMS	C-MSS-60160	215	A	The MSS EMC Fault Management Application Service shall have the capability to receive notifications of detected faults and degradation of performance from:a._Site fault management applicationsb._Other external systems as defined in Section 5.1.	functional		
SI-0050#A	6233	A	NSI shall provide ECS with periodic summary information about faults that may have affected the quality of NSI services between ECS and its users.	interface		CSMS	C-MSS-60180	223	A	The MSS EMC Fault Management Application Service shall be capable of receiving summarized fault notification and performance degradation data from:a._Site fault management applicationsb._Other external systems as defined in Section 5.1.	functional		

SI-0060#A	6234	A	NSI shall provide ECS SMC with load analysis reports, reflecting or summarizing NSI performance measurements over various time intervals.	interface		CSMS	C-MSS-66150	9125	A	The MSS EMC Performance Management Application Service shall be capable of receiving performance data from:a. Site performance management applicationsb. Other external systems as defined in Section 5.1 of the current version of 304-CD-003.	functional		
SI-0060#A	6234	A	NSI shall provide ECS SMC with load analysis reports, reflecting or summarizing NSI performance measurements over various time intervals.	interface		CSMS	C-MSS-66160	9127	A	The MSS EMC Performance Management Application Service shall be capable of receiving summarized performance data from:a. Site performance management applicationsb. Other external systems as defined in Section 5.1 of the current version 304-CD-003.	functional		
SI-0070#A	6235	A	NSI shall have the capability of sending and ECS shall have the capability of receiving notification of security breaches at NSI sites or within the NSI network that could potentially affect ECS sites.	interface		CSMS	C-MSS-10080	2351	IR1	The MSS shall interface with the NASA Science Internet (NSI) to exchange data identified in Table 5.1-1 as specified in ECS/NSI IRD, 194-219-SE1-001.	interface	NSI	MSS
SI-0080#A	6236	A	ECS shall have the capability of sending and NSI shall have the capability of receiving notification of security breaches at ECS facilities that could affect NSI and other EOSDIS sites.	interface		CSMS	C-MSS-10080	2351	IR1	The MSS shall interface with the NASA Science Internet (NSI) to exchange data identified in Table 5.1-1 as specified in ECS/NSI IRD, 194-219-SE1-001.	interface	MSS	NSI

SI-0010#B	6237	B	NSI, responsible for EOSDIS "Mission Success" network services, shall provide network connectivity to the following ECS facilities: a. ECS at the GSFC DAAC, Goddard Space Flight Center (GSFC), Greenbelt, Maryland b. ECS Operations Center (EOC), Goddard Space Flight Center (GSFC), Greenbelt, Maryland c. System Monitoring and Coordination facility (SMC), Goddard Space Flight Center (GSFC), Greenbelt, Maryland d. ECS at the EDC DAAC, Earth Resources Observation System (EROS) Data Center (EDC), Sioux Falls, South Dakota e. ECS at the JPL DAAC, Jet Propulsion Laboratory (JPL), Pasadena, California f. ECS at the LaRC DAAC, Langley Research Center (LaRC), Hampton, Virginia g. ECS at the NSIDC DAAC, University of Colorado, National Snow and Ice Data Center (NSIDC), Boulder, Colorado	procedural		CSMS						
SI-0020#B	6238	B	NSI shall provide support for TCP/IP communication protocols and services.	procedural		CSMS						
SI-0030#B	6239	B	NSI shall have the capability of sending and ECS shall have the capability of receiving notification of faults in NSI's network that may affect the quality of NSI services between ECS and its users.	interface		CSMS	C-MSS-60160	215	A	The MSS EMC Fault Management Application Service shall have the capability to receive notifications of detected faults and degradation of performance from:a._Site fault management applicationsb. Other external systems as defined in Section 5.1.	functional	

SI-0030#B	6239	B	NSI shall have the capability of sending and ECS shall have the capability of receiving notification of faults in NSI's network that may affect the quality of NSI services between ECS and its users.	interface		CSMS	C-MSS-60161	7792	B	The MSS EMC Fault Management Application Service shall have the capability to receive notifications of detected faults and degradation of performance from: a. Site fault management applications b. EBnet c. ASTER d. NOAA (SAA) e. Landsat (MMO) f. NSI g. NOLAN	functional		
SI-0040#B	6240	B	NSI shall make available to ECS information regarding fault status and estimated time to repair or resolve NSI faults that may affect the quality of NSI services between ECS and its users.	interface		CSMS	C-MSS-60160	215	A	The MSS EMC Fault Management Application Service shall have the capability to receive notifications of detected faults and degradation of performance from:a._Site fault management applicationsb. Other external systems as defined in Section 5.1.	functional		
SI-0040#B	6240	B	NSI shall make available to ECS information regarding fault status and estimated time to repair or resolve NSI faults that may affect the quality of NSI services between ECS and its users.	interface		CSMS	C-MSS-60161	7792	B	The MSS EMC Fault Management Application Service shall have the capability to receive notifications of detected faults and degradation of performance from: a. Site fault management applications b. EBnet c. ASTER d. NOAA (SAA) e. Landsat (MMO) f. NSI g. NOLAN	functional		
SI-0050#B	6241	B	NSI shall provide ECS with periodic summary information about faults that may have affected the quality of NSI services between ECS and its users.	interface		CSMS	C-MSS-60180	223	A	The MSS EMC Fault Management Application Service shall be capable of receiving summarized fault notification and performance degradation data from:a._Site fault management applicationsb. Other external systems as defined in Section 5.1.	functional		

SI-0050#B	6241	B	NSI shall provide ECS with periodic summary information about faults that may have affected the quality of NSI services between ECS and its users.	interface		CSMS	C-MSS-60181	7794	B	The MSS EMC Fault Management Application Service shall be capable of receiving summarized fault notification and performance degradation data from: a. Site fault management applications b. EBnet c. ASTER d. NOAA(SAA) e. Landsat(MMO) g. NOLAN	functional			
SI-0060#B	6242	B	NSI shall provide ECS SMC with load analysis reports, reflecting or summarizing NSI performance measurements over various time intervals.	interface		CSMS	C-MSS-66150	9125	A	The MSS EMC Performance Management Application Service shall be capable of receiving performance data from:a. Site performance management applicationsb. Other external systems as defined in Section 5.1 of the current version of 304-CD-005.	functional			
SI-0060#B	6242	B	NSI shall provide ECS SMC with load analysis reports, reflecting or summarizing NSI performance measurements over various time intervals.	interface		CSMS	C-MSS-66160	9127	A	The MSS EMC Performance Management Application Service shall be capable of receiving summarized performance data from:a. Site performance management applicationsb. Other external systems as defined in Section 5.1 of 304-CD-005.	functional			
SI-0060#B	6242	B	NSI shall provide ECS SMC with load analysis reports, reflecting or summarizing NSI performance measurements over various time intervals.	interface		CSMS	C-MSS-66151	7819	B	The MSS EMC Performance Management Application Service shall be capable of receiving performance data from: a. Site performance management applications b. EBnet c. ASTER d. NOAA(SAA) e. Landsat(MMO) g. NOLAN	functional			
SI-0070#B	6243	B	NSI shall have the capability of sending and ECS shall have the capability of receiving notification of security breaches at NSI sites or within the NSI network that could potentially affect ECS sites.	interface		CSMS	C-MSS-10080	2351	IR1	The MSS shall interface with the NASA Science Internet (NSI) to exchange data identified in Table 5.1-1 as specified in ECS/NSI IRD, 194-219-SE1-001.	interface	NSI	MSS	

SI-0070#B	6243	B	NSI shall have the capability of sending and ECS shall have the capability of receiving notification of security breaches at NSI sites or within the NSI network that could potentially affect ECS sites.	interface		CSMS	C-MSS-70480	7839	B	The MSS Security Management Application Service shall have the capability to receive from NSI, notification of security breaches at NSI sites or within the NSI network that could potentially affect ECS sites.	interface	NSI	MSS	
SI-0080#B	6244	B	ECS shall have the capability of sending and NSI shall have the capability of receiving notification of security breaches at ECS facilities that could affect NSI and other EOSDIS sites.	interface		CSMS	C-MSS-10080	2351	IR1	The MSS shall interface with the NASA Science Internet (NSI) to exchange data identified in Table 5.1-1 as specified in ECS/NSI ICD, 505-41-19-SEI-001.	interface	MSS	NSI	
SI-0080#B	6244	B	ECS shall have the capability of sending and NSI shall have the capability of receiving notification of security breaches at ECS facilities that could affect NSI and other EOSDIS sites.	interface		CSMS	C-MSS-70478	7838	B	The MSS Security Management Application Service shall have the capability to send to NSI, notification of security breaches at ECS facilities that could affect NSI and other EOSDIS sites.	interface	MSS	NSI	

Table 5: Table 5 is a reference table that shows the relationship between the External_Interface Class and the NSI requirements in the Req_By_Rel Class.

External_interface_id	Inteface_verification	Sender	Receiver	RBR Class Rqt_ID
NSI#Fault Notification	verified	TBS	NSI	TBS (A)
NSI#Fault Resolution	verified	TBS	NSI	TBS (A)
NSI#Fault Notification	verified	CsEmMailRelA	NSI	TBS (B)
NSI#Fault Resolution	verified	CsEmMailRelA	NSI	TBS (B)
NSI#Fault Notification	verified	NSI	MsTtManager	NSI-0030#A
NSI#Fault Resolution	verified	NSI	CsEmMailRelA	NSI-0040#A
NSI#Fault Notification	verified	NSI	MsTtManager	NSI-0030#B
NSI#Fault Resolution	verified	NSI	CsEmMailRelA	NSI-0040#B
NSI#Intrusion Detection Notification	verified	NSI	CsEmMailRelA	NSI-0070#A
NSI#Intrusion Detection Notification	verified	CsEmMailRelA	NSI	NSI-0080#A
NSI#Intrusion Detection Notification	verified	NSI	CsEmMailRelA	NSI-0070#B
NSI#Intrusion Detection Notification	verified	CsEmMailRelA	NSI	NSI-0080#B
NSI#Load Analysis Reports	verified	NSI	CsEmMailRelA or CsFtFTPRelA	NSI-0060#A
NSI#Load Analysis Reports	verified	NSI	CsEmMailRelA or CsFtFTPRelA	NSI-0060#B
NSI#User Data Characterization	verified	CsEmMailRelA or CsFtFTPRelA	NSI	TBS

TABLE 6:   Table 6 shows the links that shall be DELETED between the NSI requirements in the L3_F&PRS Class and the IRD RBR requirements that currently exist in the Req_By_Rel Class of RTM MAIN.

L3_F&PRS NSI Rqt_Id	RBR Rqt_Id
NSI-0010	~~NSI-0010#A~~
NSI-0010	~~NSI-0010#B~~
NSI-0020	~~NSI-0020#A~~
NSI-0020	~~NSI-0020#B~~
NSI-0030	~~NSI-0030#A~~
NSI-0030	~~NSI-0030#B~~
NSI-0040	~~NSI-0040#A~~
NSI-0040	~~NSI-0040#B~~
NSI-0050	~~NSI-0050#A~~
NSI-0050	~~NSI-0050#B~~
NSI-0060	~~NSI-0060#A~~
NSI-0060	~~NSI-0060#B~~
NSI-0070	~~NSI-0070#A~~
NSI-0070	~~NSI-0070#B~~
NSI-0080	~~NSI-0080#A~~
NSI-0080	~~NSI-0080#B~~

TABLE 7: Table 7 shows the NSI requirements that shall be <u>DELETED from the L3_F&PR Class</u> of RTM MAIN.

The following NSI requirements and their links are to be deleted from the L3_F&PRS Class since they were mistakenly placed into the L3_F&PR Class via CCR-96-0316A and should be removed. In addition, the requirement named NSI-0010 currently appears twice in RTM MAIN with two different Rtm keys [1551 and 1559]. Both requirements, NSI[1551] and NSI[1559] shall be deleted from the L3_F&PRS Class by this CCR.

L3 Rqt_Id	Rqt Key	Rqt Text	Rqt Type	Clarific	Seg Alloc	Rqt source	Rqt Status	Rqt Title
NSI-0010	1551	NSI, responsible for EOSDIS "Mission Success" network services, shall provide network connectivity to the following ECS facilities: a. ECS at the GSFC DAAC, Goddard Space Flight Center (GSFC), Greenbelt, Maryland b. ECS Operations Center (EOC), Goddard Space Flight Center (GSFC), Greenbelt, Maryland c. System Monitoring and Coordination facility (SMC), Goddard Space Flight Center (GSFC), Greenbelt, Maryland d. ECS at the EDC DAAC, Earth Resources Observation System (EROS) Data Center (EDC), Sioux Falls, South Dakota e. ECS at the JPL DAAC, Jet Propulsion Laboratory (JPL), Pasadena, California f. ECS at the LaRC DAAC, Langley Research Center (LaRC), Hampton, Virginia g. ECS at the NSIDC DAAC, University of Colorado, National Snow and Ice Data Center (NSIDC), Boulder, Colorado h. ECS at the ASF DAAC, University of Alaska, Alaska Synthetic Aperture Radar (SAR) Facility (ASF), Fairbanks, Alaska	procedural		CSMS	original	approved	NSI support to provides networks connectivity.

i. ECS at the MSFC DAAC, Marshall Space Flight Center (MSFC), Huntsville, Alabama

NSI-0010	1559	NSI, responsible for EOSDIS "Mission Success" network services, shall provide network connectivity to the following ECS facilities: a. ECS at the GSFC DAAC, Goddard Space Flight Center (GSFC), Greenbelt, Maryland b. ECS Operations Center (EOC), Goddard Space Flight Center (GSFC), Greenbelt, Maryland c. System Monitoring and Coordination facility (SMC), Goddard Space Flight Center (GSFC), Greenbelt, Maryland d. ECS at the EDC DAAC, Earth Resources Observation System (EROS) Data Center (EDC), Sioux Falls, South Dakota e. ECS at the JPL DAAC, Jet Propulsion Laboratory (JPL), Pasadena, California f. ECS at the LaRC DAAC, Langley Research Center (LaRC), Hampton, Virginia g. ECS at the NSIDC DAAC, University of Colorado, National Snow and Ice Data Center (NSIDC), Boulder, Colorado h. ECS at the ASF DAAC, University of Alaska, Alaska Synthetic Aperture Radar (SAR) Facility (ASF), Fairbanks, Alaska	procedural		CSMS	original	approved	NSI support to provides networks connectivity.
NSI-0020	1552	NSI shall provide support for TCP/IP communication protocols and services to ESN. ECS at the MSFC DAAC, Marshall Space Flight Center (MSFC), Huntsville, Alabama	procedural		CSMS	original	approved	NSI support for TCP/IP communication protocol and services.
NSI-0030	1553	NSI shall have the capability of sending and ECS shall have the capability of receiving notification of faults in NSI's network that may affect the quality of NSI services between ECS and its users.	interface		CSMS	original	approved	NSI capability to send - ECS capability to receive fault notification.
NSI-0040	1554	NSI shall make available to ECS information regarding fault status and estimated time to repair or resolve NSI faults that may affect the quality of NSI services between ECS and its users.	interface		CSMS	original	approved	NSI make available fault status and estimated time for repairs to ECS.
NSI-0050	1555	NSI shall provide ECS with periodic summary information about faults that may have affected the quality of NSI services between ECS and its users.	interface		CSMS	original	approved	NSI provides periodic summary information about faults to ECS.
NSI-0060	1556	NSI shall provide ECS SMC with load analysis reports, reflecting or summarizing NSI performance measurements over various time intervals.	interface		CSMS	original	approved	NSI provides load analysis to ECS SMC.
NSI-0070	1557	NSI shall have the capability of sending and ECS shall have the capability of receiving notification of security breaches at NSI sites or within the NSI network that could potentially affect ECS sites.	interface		CSMS	original	approved	NSI capability to send - ECS capability to receive security breach notification.
NSI-0080	1558	ECS shall have the capability of sending and NSI shall have the capability of receiving notification of security breaches at ECS facilities that could affect NSI and other EOSDIS sites.	interface		CSMS	original	approved	ECS capability to send - NSI capability to receive security breach notification.

TABLE 8: Table 8 shows the IRD NSI requirements that shall be <u>ADDED to the IRD Class</u> of RTM MAIN by this CCR.
The Rtm Key is <u>New</u> since this is the first instance of these requirements in the IRD Class.

IRD Rqt_Id	Rtm Key	Rqt Text	Rqt Type	Clarific	Src Interf	Destin Interf	Rqt Title
NSI-0010	New	NSI, responsible for EOSDIS "Mission Success" network services, shall provide network connectivity to the following ECS facilities: a. ECS at the GSFC DAAC, Goddard Space Flight Center (GSFC), Greenbelt, Maryland b. ECS Operations Center (EOC), Goddard Space Flight Center (GSFC), Greenbelt, Maryland c. System Monitoring and Coordination facility (SMC), Goddard Space Flight Center (GSFC), Greenbelt, Maryland d. ECS at the EDC DAAC, Earth Resources Observation System (EROS) Data Center (EDC), Sioux Falls, South Dakota e. ECS at the JPL DAAC, Jet Propulsion Laboratory (JPL), Pasadena, California f. ECS at the LaRC DAAC, Langley Research Center (LaRC), Hampton, Virginia g. ECS at the NSIDC DAAC, University of Colorado, National Snow and Ice Data Center (NSIDC), Boulder, Colorado h. ECS at the ASF DAAC, University of Alaska, Alaska Synthetic Aperture Radar (SAR) Facility (ASF), Fairbanks, Alaska i. ECS at the MSFC DAAC, Marshall Space Flight Center (MSFC), Huntsville, Alabama	procedural				NSI support to provides networks connectivity.
NSI-0020	New	NSI shall provide support for TCP/IP communication protocols and services to ESN.	procedural				NSI support for TCP/IP communication protocol and services.
NSI-0030	New	NSI shall have the capability of sending and ECS shall have the capability of receiving notification of faults in NSI's network that may affect the quality of NSI services between ECS and its users.	interface	NSI	ECS		NSI capability to send - ECS capability to receive fault notification.
NSI-0040	New	NSI shall make available to ECS information regarding fault status and estimated time to repair or resolve NSI faults that may affect the quality of NSI services between ECS and its users.	interface	NSI	ECS		NSI make available fault status and estimated time for repairs to ECS.
NSI-0050	New	NSI shall provide ECS with periodic summary information about faults that may have affected the quality of NSI services between ECS and its users.	interface	NSI	ECS		NSI provides periodic summary information about faults to ECS.
NSI-0060	New	NSI shall provide ECS SMC with load analysis reports, reflecting or summarizing NSI performance measurements over various time intervals.	interface	NSI	ECS		NSI provides load analysis to ECS SMC.
NSI-0070	New	NSI shall have the capability of sending and ECS shall have the capability of receiving notification of security breaches at NSI sites or within the NSI network that could potentially affect ECS sites.	interface	NSI	ECS		NSI capability to send - ECS capability to receive security breach notification.
NSI-0080	New	ECS shall have the capability of sending and NSI shall have the capability of receiving notification of security breaches at ECS facilities that could affect NSI and other EOSDIS sites.	interface	ECS	NSI		ECS capability to send - NSI capability to receive security breach notification.

TABLE 9: **Table 9 represent the links that shall be <u>CREATED</u> between the L3_F&PRS requirements and L3 IRD NSI requirements.**

L3_F&PRS Rqt_Id	IRD NSI L3 Rqt_Id
EOSD0500	<u>NSI-0030</u>
EOSD0500	<u>NSI-0040</u>
EOSD1000	<u>NSI-0050</u>
EOSD2100	<u>NSI-0070</u>
EOSD2100	<u>NSI-0080</u>
EOSD2510	<u>NSI-0070</u>
EOSD2510	<u>NSI-0080</u>
EOSD2710	<u>NSI-0070</u>
EOSD2710	<u>NSI-0080</u>
ESN-0003	<u>NSI-0020</u>
ESN-0006	<u>NSI-0010</u>
ESN-0780	<u>NSI-0030</u>
ESN-0780	<u>NSI-0040</u>
ESN-0780	<u>NSI-0050</u>
ESN-1070	<u>NSI-0060</u>
ESN-1180	<u>NSI-0020</u>
ESN-1340	<u>NSI-0020</u>
ESN-1380	<u>NSI-0070</u>
ESN-1380	<u>NSI-0080</u>
ESN-1430	<u>NSI-0070</u>
ESN-1430	<u>NSI-0080</u>
SMC-3380	<u>NSI-0060</u>
SMC-4310	<u>NSI-0050</u>
SMC-5340	<u>NSI-0070</u>
SMC-5340	<u>NSI-0080</u>

TABLE 10: **Table 10 presents the links that shall be <u>CREATED</u> between the Level_3 IRD NSI requirements in the IRD Class and the IRD RBR requirements currently existing in the Req_By_Rel Class of RTM MAIN.**

L3 IRD Rqt_Id	RBR Rqt_Id
NSI-0010	<u>NSI-0010#A</u>
NSI-0010	<u>NSI-0010#B</u>
NSI-0020	<u>NSI-0020#A</u>
NSI-0020	<u>NSI-0020#B</u>
NSI-0030	<u>NSI-0030#A</u>
NSI-0030	<u>NSI-0030#B</u>
NSI-0040	<u>NSI-0040#A</u>
NSI-0040	<u>NSI-0040#B</u>
NSI-0050	<u>NSI-0050#A</u>
NSI-0050	<u>NSI-0050#B</u>
NSI-0060	<u>NSI-0060#A</u>
NSI-0060	<u>NSI-0060#B</u>
NSI-0070	<u>NSI-0070#A</u>
NSI-0070	<u>NSI-0070#B</u>
NSI-0080	<u>NSI-0080#A</u>
NSI-0080	<u>NSI-0080#B</u>

TABLE 11:   Table 11 represents the links that shall be CREATED between the External Interface and the NSI RBR requirements of the Req_By_Rel Class.

External_interface_id	RBR Class Rqt_ID
NSI#Fault Notification	
NSI#Fault Resolution	
NSI#Fault Notification	
NSI#Fault Resolution	
NSI#Fault Notification	NSI-0030#A
NSI#Fault Resolution	NSI-0040#A
NSI#Fault Notification	NSI-0030#B
NSI#Fault Resolution	NSI-0040#B
NSI#Intrusion Detection Notification	NSI-0070#A
NSI#Intrusion Detection Notification	NSI-0080#A
NSI#Intrusion Detection Notification	NSI-0070#B
NSI#Intrusion Detection Notification	NSI-0080#B
NSI#Load Analysis Reports	NSI-0060#A
NSI#Load Analysis Reports	NSI-0060#B
NSI#User Data Characterization	